

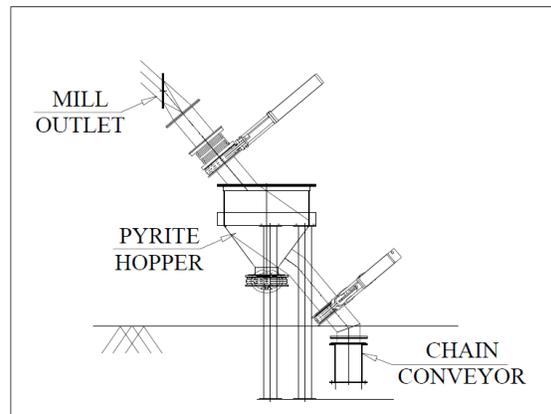
## EFFECTIVE METHOD OF HANDLING MILL REJECTS (PYRITES)

By Siddharth Rane and H Ramakrishna

In thermal power plants, Mill Reject Handling System (MRHS) is provided to evacuate mill rejects (Pyrites) from the pyrite hopper and convey it to the mill reject silo. The conventional methods of MRH system include Pneumatic type, Mechanical type (By Belt / Chain conveyors) and Hydraulic type. Pneumatic conveying system is more flexible in layout and requires less space but consumes more power. Mechanical system is a more positive system but is not flexible. Hydraulic system is generally not provided due to high water consumption.

In many thermal power plants in India, both Pneumatic conveying system and Mechanical type conveying system are provided. In some of the power plants, where pneumatic system is provided, choking of the pneumatic pipelines was reported. This is due to the higher size of the pyrites coming from the mills. Due to frequent choking, the pneumatic system is made defunct and the pyrites are unloaded on to the ground and disposed manually.

TCE, has provided design engineering services for replacing the Pneumatic system with Mechanical type system. In this plant, the Pneumatic handling system with transmitter vessels below each mill and its associated piping would be dismantled completely. Mechanical type which is more positive conveying system would be provided. The chain conveyor would be provided such that the pyrites from all the mills are fed to the chain conveyor. The pyrites will be further conveyed to the mill reject silo. Mill rejects from the silo would be disposed by trucks.



The mill area in the power plants is very congested and providing mechanical type of pyrite handling system is a very challenging job. TCE prepared different alternative schemes with combination of different type of equipment and could finalise a workable optimised scheme within the limited space available. The customer was happy with the proposed scheme and is under execution. TCE has the competency to accept such challenging assignments and providing optimised solutions.